

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended.) A method of charging and blasting a drill hole extending between a mouth thereof at a surface, and a blind end or bottom thereof remote from the mouth, the method comprising:

~~the method steps of charging the drill hole including which comprises~~

providing in the drill hole at a relatively low level toward said bottom a lower layer of a blasting substance, and a lower layer of a plunger material proximately above the lower layer of blasting substance;

providing in the drill hole at a relatively high level remote from said bottom a higher layer of a plunger material, spaced a predetermined distance above said lower layer of plunger material to form a spacing, and proximately above said higher layer of plunger material, a higher layer of a blasting substance;

placing initiators in association with the respective layers of blasting substances and connecting the initiators to a controller for actuating the initiators at predetermined time interval[[,]] ; and

~~the method steps of blasting the charged drill hole including which comprises~~

actuating the initiators by means of the controller, thereby propelling the lower layer of plunger material by means of the lower layer of blasting substance into said spacing, and propelling the higher layer of plunger material by means of the higher layer of blasting substance into said spacing thereby causing the lower layer of plunger material and the higher layer of plunger material to impinge upon each other, and causing conversion of kinetic energy associated with the propelled layers of plunger material into pressure or shock waves to effect destruction of rock in the surrounding material.

2. (Currently amended.) A method as claimed in Claim 1, in which the spacing between opposing surfaces of respectively said lower layer of plunger material and said higher layer of plunger material is between about [[0,5 m]] 0.5 m and about 3 m.

3. (Currently amended.) A method as claimed in Claim 1 or ~~Claim 2~~ in which the respective layers of plunger material are flowable material allowing placement in the drill hole at the respective desired positions.

4. (Currently amended.) A method as claims in ~~any one of~~ Claim 1 to ~~Claim 3 inclusive~~, including further comprising tamping the drill hole proximate its mouth.

5. (Currently amended.) A method as claimed in ~~any one of~~ Claim 1 to ~~Claim 4 inclusive~~ in which said relatively lower level is spatially adjacent [[a]] the bottom of the drill hole end spaced above the bottom by a predetermined distance.

6. (Currently amended.) A method as claimed in Claim 5 in which the spacing between said relatively low level and the bottom is between about [[0,5 m]] 0.5 m and about 3m.

7. (Currently amended.) A method as claimed in Claim 5 or ~~Claim 6~~, including wherein said charging step further comprises supporting in each respective case the layer of plunger material and the layer of blasting substance on a plug capable of being positioned in the drill hole at a predetermined level.

8. (Currently amended.) A method as claims in ~~any one of~~ Claim 5 to ~~Claim 7 inclusive~~, including wherein said charging step further comprises providing plunger material below the lower layer of blasting substance to provide a lower composite layer, providing plunger material above the higher layer of blasting substance to provide a higher composite layer, and providing one or more further composite layers of blasting substance and plunger material in the drill hole, with spacings in-between, in series along the drill hole.

9. (Currently amended.) A method as claimed in ~~any one of~~ Claim 1 to ~~Claim 4 inclusive~~, in which the lower layer of blasting substance is positioned proximate and is supported on the bottom of the drill hole.

10. (Currently amended.) A method as claimed in ~~any one of~~ Claim 1 to ~~Claim 9 inclusive~~ which wherein said actuating step further comprises includes actuating the initiators at time intervals to initiate the respective blasting substances simultaneously.

11. (Currently amended.) A method as claimed in Claim 10 wherein said actuating step further comprises which includes actuating the initiators in a way selected from electrically, electronically, or pyrotechnically.

12. (Currently amended.) A method of mining including comprising carrying out the method of ~~any one of~~ Claim 1 to ~~Claim 11~~ on each of an array of drill holes.

13. (Currently amended.) A charged drill hole extending between a mouth thereof at a surface, and a blind end or bottom thereof remote from the mouth, including comprising within the drill hole,

a lower layer of a blasting substance at a relatively low level toward said bottom, and a lower layer of plunger material proximately above the lower layer of blasting substance,

a higher layer of plunger material at a relatively high level remote from said bottom, and spaced a predetermined distance above said lower layer of plunger material such as to form a spacing therebetween, and proximately above said higher layer of plunger material, a higher layer of a blasting substance;

initiators placed in association with the respectively layers of blasting substances and having connectors for connection to a controller for actuating the initiators at predetermined time intervals,

~~an arrangement being provided~~ wherein the lower and higher layers of plunger material oppose each other spatially, each layer of plunger material being backed by a layer of blasting substance, such that, in use, on actuation of the layers of blasting substance the layers of plunger material are propelled toward each other, to impinge upon each other and to convert kinetic energy associated with the propelled layers of plunger material into pressure or shock waves to destruct surrounding material.

14. (Currently amended.) A charged drill hole as claimed in Claim 13 in which the spacing between opposing surfaces of respectively said lower layer and said higher layer of plunger material is between about [[0,5 m]] 0.5 m and about 3 m.

15. (Currently amended.) A charged drill hole as claimed in Claim 13 ~~or Claim 14~~ in which the respective layers of plunger material are flowable material allowing placement in the drill hole at the respective desired positions.

16. (Currently amended.) A charged drill holes as claimed in ~~any one of~~ Claim 13 to ~~Claim 15 inclusive, including further comprising~~ tamping material closing the drill hole proximate its mouth.

17. (Currently amended.) A charged drill hole as claimed in ~~any one of~~ Claim 13 to ~~Claim 16 inclusive~~ in which said relatively low level is spatially adjacent a bottom of the drill hole and spaced above the bottom by a predetermined distance.

18. (Currently amended.) A charged drill hole as claimed in Claim 17 in which the spacing is between about [[0,5 m]] 0.5 m and about 3 m.

19. (Currently amended.) A charged drill hole as claimed in ~~any one of~~ Claim 17 or ~~Claim 18~~ in which in each respective case, the layer of plunger material and the layer of blasting substance is supported on a plug positioned in the drill hole at a predetermined level.

20. (Currently amended.) A charged drill hole as claimed in ~~any one of~~ Claim 17 to ~~Claim 19 inclusive, including further comprising~~ plunger material provided below the lower layer of blasting substance to form a lower composite layer, plunger material provided above the higher

layer of blasting substance to form a higher composite layer, and one or more further composite layers of blasting substance and plunger material, with spacings in-between, in series along the drill hole.

21. (Currently amended.) A charged drill hole as claimed in ~~any one of Claim 13 to Claim 18 inclusive~~, in which the lower layer of blasting substance is proximate the bottom and is supported on the bottom.

22. (Currently amended.) A blasting operation ~~including comprising~~ an array of blast holes each in accordance with ~~any one of Claim 13 to Claim 21 inclusive~~.